

ABSTRACT

A broadcast satellite network transmits from a source to multiple router nodes digital real-time program information and best-effort data. The router nodes are specifically suited for extracting best-effort data streams from the multiplexed signal received via, e.g., a satellite. A number of management techniques are disclosed. According to one technique, a packet is formed having a network layer header, including a destination address for routing a packet to a destination, a second header identifying a syntax and semantic by which a payload of the packet may be parsed in a predefined fashion, and a payload containing a command to be executed by each of one or more to-be-managed nodes to which the packet is destined. The packet is transmitted a plural amount of times to a plurality of nodes, including the one or more to-be-managed nodes, but the command in the particular packet is executed only a single time. According to other techniques, the nodes are divided into groups. In one technique, a unique identifier is assigned to each group and the packet containing the command contains the identifier. The packet is transmitted once but received by all nodes, including the group of nodes to which the same identifier was assigned. Only those nodes of the group with the same identifier execute the command. According to another embodiment, a manager node maintains a list of the addresses of all nodes in a group and automatically transmits the packet once to each address, thereby enabling automatic communication of the same packet to multiple nodes.